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Exploring the Role of Mobile Learning in English Language Education: A Perspective of Pakistan

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ABSTRACT

The aim of this study is to investigate the impact of mobile learning (m-learning) on English language performance of university students in Pakistan. It aims at gaining insights into the ways that students use mobile devices for learning languages, their belief in its effectiveness, the challenges they encounter, and their perspectives on the potential of such technology in a learning institution. Field work was carried out under quantitative research design;the data was gathered from a sample of 380 students studying in major public and private sector universities in Pakistan. A structured questionnaire with demographic and Likert-scale items was used. Cronbach's alpha was used to check reliability of the tool. Data were entered using SPSS version 28 and were presented in the form of descriptive statistics, tables, and figures. According to the results, most students use mobile phones for English learning often and consider them effective as supplementary resources. Enhanced motivation, exposure to a wide range of resources, and enhancements in a range of language skills were described by students. But had obstacles like struggles with internet connectivity issues, expensive data costs, a dearth of localized content, and constant distractions. Nevertheless, students' energy to support institution adoption of mobile learning was high and they anticipated that future iterations – especially AI inspired tools - would be a major advance. This study provides important information on the opportunities and challenges of m-learning in the tertiary education in Pakistan. It emphasizes the increasing importance of Mobile Assisted Language Learning (MALL) in the context of developing nations and provides practical suggestions for teachers, policymakers and developers to enable effective and equitable digital English education.

Keywords: *Mobile Learning, English Language Education, Higher Education, Pakistan, Technology Integration*

INTRODUCTION

Advances in digital technology have led to the reform of several areas, including that of education, leading to significant changes in the manner in which individuals are taught and learn. One of these innovations is mobile-based learning (m-learning), which plays a revolutionizing role in language teaching and learning in particular. Mobile learning is the process of using mobile devices, including smartphones and tablets, in an organized way to facilitate effective learning at any time and place. From an English language learning perspective, m-learning seems to hold promise for the improvement of language learning through flexible, interactive and personalised learning opportunities. This becomes even more pertinent in contexts of Pakistan where the traditional systems of education are fraught with several challenges, such as dearth of good quality resources, overcrowded classrooms and lack of professionally qualified English language teachers. Integration of M-Learning in EFL language can fill this gap and provide learners with a chance to enhance their language development outside the classroom walls (Yu, 2011).

Pakistan, being a multilingual nation, cherishes English immensely for being an official language and for its significance in higher education, professional job opportunities and international communication (Ali et al., 2024). But, despite its significance, the issue of English fluency is a serious struggle for a lot of Pakistani students. The traditional approach towards the teaching and learning of English, which is largely based on rote memorization and grammartranslation methods, has failed in the establishment of communicative competence (Rashid, 2018). Matters are compounded by socio-economic differences and regional inequalities that contribute to disproportionately more challenging learning conditions experienced by learners who live in rural areas and are less fortunate, where access to competent teachers and teaching/learning materials is limited. In such an environment, mobile learning would be an attractive alternative, and use of cell phones are so common in Pakistan that they are an ideal way to bring democratization of English language education (Javid et al., 2023).

The growing prevalence of mobile phones throughout Pakistan offers a strong platform for the diffusion of m-learning (Ishaq et al., 2020). Recent statistics and data show that Pakistan has the second largest number of mobile phone users in South Asia and that there are millions of smartphone users in Pakistan — the children making up a significant proportion of these users. The ubiquitous nature of mobile technologies offers an opportunity to utilize mobile-assisted language learning (MALL) to compliment in-class language instruction. Mobile apps, learning platforms, and digital resources (e.g., podcasts, videos, and interactive exercises) have potential to offer a rich language experience for productive and recepti ve language skills including listening, speaking, reading, and writing (Ali et al., 2020). Further, due to the mobility of smartphones, learners have an opportunity to use English in ecological settings which can drive language learning through authentic engagement (Joyes, 2013).

One of the challenges that mobile learning in English langue education help to address is that of the ability to accommodate various learning styles and rhythms. Mobile learning such as this m-learning allows customized learning experiences where students can access content according to their level of knowledge and their specific interest unlike traditional classroom instruction. Intelligent learning applications, for example, apply AI to personalize lessons based on learner development, and offer timely and targeted feedback (Ali et al., 2024). This student-centred approach not only increases motivation, but also accommodates for different students' needs; even those less suited to traditional learning settings (Afzal et al., 2025). Additionally, mobile learning tools, which are interactive and media enrich, through the use of

gamified language apps, voice recognition, and social language learning network, help to enhance language learning more attentively and efficiently (Afshar, 2023; Niaz & Soomro, 2023).

However, despite the opportunities offered, the incorporation of MALL in the English language learning context in Pakistan does not come without obstacles. Infrastructure challenges, like lack of internet access and unreliable power supply, especially in remote areas, can pose barriers to the consistent use of mobile learning resources (Mankash et al., 2025). Furthermore, digital literacy is required by instructors and students in order to fully exploit the advantages of m-learning (Fatima et al., 2023). Most teachers may not have the expertise to integrate mobile technology meaningfully into their pedagogy and some students could encounter problems with the use of digital platforms (Kumar et al., 2024). There are also socioeconomic barriers to consider: not all students can afford the latest high-end smartphone and on-going data plans. In addition, cultural acceptance of mobile device usage in education may differ, with some parties regarding them as interruption tools rather than learning devices (Rashid et al., 2021). Multifaceted interventions from policy actions to teacher training to digital access and literacy in the public-private partnership need to be taken to confront these challenges.

The role of m-learning in ESL education is closely knitted together with larger education reforms in Pakistan. National Education Policy of the country has acknowledged the role of technology in education and advised the integration of ICT (Information and Communication Technology) in teaching-learning process (Iqbal & Bhatti, 2020). But the administration of such policies is spotty with differences between urban and rural schools. A coordinated introduction of m-learning may be in in line with these policy aims, if such introduction is predicated on appropriate infrastructure, teacher capacitance, and some level of curricular adjustment (Ali, 2022). It is in this background that research on mLearning in Pakistan is in the preliminary stages but it has shown positive results on student's involvement, accessibility and development of language skills. Deeper inquiry is necessary in order to investigate the long-term effects of m-learning on English proficiency and its scalability in other areas and levels of education (Asad et al., 2024).

Moreover, the pedagogical design aspect with respect to mobile learning solutions needs to be addressed for English language learning. Simply translating existing content onto digital devices is not enough and m-learning should capitalize on the unique capabilities of mobile devices for creating interactive content, communicative and context-based (Javed et al., 2024). For instance, the inclusion of social learning elements (e.g. peer work, discussion boards and language exchange networks) can increase opportunities for communicative practice. Use of the target language in the setting of authentic materials (i.e. news stories, videos, and podcasts) can be included to expose learners to the kind of language they might encounter (Siddiqui, et al., 2022). Focusing mainly on mobile-assisted task-based learning, filling their time with language-related tasks, is another way to encourage active learning and critical thinking.

To conclude, mobile learning offers great potential in revolutionizing English language learning in Pakistan, it has the potential to fill the existing gaps in access, engagement and instructional quality. The proliferation of mobile devices and their potential flexibility and interactivity of m-learning tools, such as mobile language learning apps provides an interesting avenue for language learning in a country where English is critically important for learning, educational and career opportunities. But unlocking that potential means solving infrastructural, socioeconomic, and educational challenges together as policy makers, educators, and technologists. Recommendations: Future research should explore the outcomes of different m-learning strategies and best practice approaches in Pakistani environments. With future trends in digital media, mobile learning is positioned to have a more significant impact on the future of English language teaching and learning in Pakistan that will help to enhance and improve the quality of learning experience available to all.

Problem Statement

However, since traditional teaching methods are unable to develop students' communication skills, they are neglected and they look for the new teaching approaches. Obstacles, such as lack of access to quality instruction, large class sizes, and economic disparity, also stand in the way of successful language learning. Although mobile learning (m-learning) is a potential option because of the increasing use of smartphones, it encounters challenges, such as limited digital infrastructure, unprepared teachers, and unequal learner accessibility to technology. Failure to address these barriers leads to the underutilisation of the capability of m-learning to improve the quality of English language education in Pakistan, widening the gap in language learning access and collapsing aspirations of students.

Objectives of the Study

The objectives of the study are followings:

- To explore the usage pattern of mobile learning (m-learning) among Pakistani students for English language learning and how frequent they use m-learning apps, resources like videos, podcast and perceive it to be effective than that of traditional way.
- To assess the mindset of students about m-learning with respect of its motivational effect, content validity and usefulness as a workable substitute or a supplementary complement to face-to-face English instruction.
- To recognize the major obstacles of m-learning adoption in Pakistan such as internet connectivity problems, high data charges, absence of localized content and distractions in content selection.
- An investigation to the future outlook of m-learning as a contributing to the English learning sector of education in Pakistan, the use of the AI-based tools, the integration of the institutions, and the government aid to make it possible as on a large scale.
- To give actionable recommendations to policy makers, educationists and app developers to make m-learning more accessible, affordable and pedagogically relevant for the learners of Pakistan.

Significance of the Study

This study is of great significance for the regional context of education in Pakistan because English proficiency is key for educational and employment opportunities in Pakistan. Injecting research into the discussion about the role of mobile learning (m-learning) in English language comes this latest article, exploring how technology might fulfil gaps in access, engagement, and quality of teaching within a particular region with limited resources. The results will provide evidence based inputs for policy makers on how easy and cost-effective strategies can be used to incorporate m-learning into the education system of a country. The recommendations are relevant to educators who can have innovative teaching approaches, and for students who can benefit from more flexible and interactive study opportunities. In addition, the study provides insights to the international dialogue on mobile-assisted language learning (MALL) by situating its challenges and affordances in the light of a developing country. In the end, this research will promote more equitable and responsive English language education, helping all students to succeed in our increasingly digital world.

LITERATURE REVIEW

A literature review is a critical summary and evaluation of existing research on a specific topic. It identifies key concepts, theories, methodologies, and gaps in the current knowledge base. The purpose is to provide context, support research questions, and justify the need for new study.

Introduction to Mobile Learning (M-Learning)

Mobile learning (m-learning) involves the use of portable and handheld digital technologies, such as smartphones, tablets and laptops, to support learning that happens across diverse learning contexts outside the boundaries of classroom walls. In contrast to e-learning that requires a desktop computer, m-learning is concerned with the mobility, personalization, and flexibility of learning (Safder, 2024). In educational settings, mobile-assisted language learning (MALL) has emerged as a way to offer on-the-go, interactive language learning opportunities. According to research, m-learning supports learner autonomy, motivation, and exposure to authentic language use (Rubab, 2023). With the proliferation of mobile technology in developing countries, mobile learning offers a unique potential to revolutionize English Language Education in areas with limited access to formal instruction.

The Global Context of M-Learning in English Language Education

Internationally, m-learning is used extensively for language teaching thanks to advances in mobile applications, gamification and adaptive learning tools. Research in South Korea, Turkey and Saudi Arabia finds that mobile apps (e.g., Duolingo and Babbel) increase the retention of vocabulary, grammatical abilities, and confidence in speaking. Some studies also emphasized the contribution of social media and messaging applications (e.g., WhatsApp, Telegram) to encourage collaborative learning (Pathan et al., 2024). But the digital infrastructure and access to internet inequalities affect effectiveness of m-learning, especially in low-income areas. Although advanced countries have embedded m-learning in formal systems of education, poor nations like Pakistan deter from its implementation due to technical and economic difficulties (Dahraj et al., 2020).

The Importance of English Language Education in Pakistan

As the official language of government, higher education, and businesses, English is very well-entrenched in Pakistan. English proficiency is central but low (especially in rural and public-school contexts) (Ullah et al., 2024). Conventional approaches do not focusing on conversation, relying instead on rote memorization and grammar-translation methods (Zhu, & Wang, 2022). In addition, there are socioeconomic inequalities in quality access to English and private schools vis-a-vis public schools in urban areas outcompete those in rural areas. The government's National Education Policy focuses on the integration of technology, but it is not always utilised. In light of these problems, m-learning may be a possible alternative, supplementary learning aid to develop English language skills in those with limited opportunities.

Mobile Learning Adoption in Pakistan: Opportunities and Challenges

Pakistan has one of the largest Mobile penetration in South Asia having around 183 million cellular subscribers. This wide accessibility provides a great potential for m-learning acceptance (Sehr et al., 2024). Preliminary investigations show that university students in Pakistan employ smartphones for casual langugage learning by means of YouTube, language apps and social media. But there are several roadblocks to widespread adoption:

Mobile learning (m-learning) is facing some compassionate challenges in Pakistan in which its full potential as learning tool is not utilized. One of the critical constraints is infrastructure constraints, especially in rural areas where continual power cut and unreliable internet access impede the access to mobile-learning platforms (Musa et al., 2022). These technical limitations obstruct students from constantly learning with educational materials using mobile devices.

Another crucial problem is the digital illiteracy on the part of teachers and students. The lack of usable training among the instructors and learners on how to use mobile technology for learning affects how learning using m-learning tools and applications will be successful. This lack of skill poses a barrier to the use of mobile technology in teaching and learning (Naz et al., 2022).

Socioeconomic limitations also severely restrict access to m-learning. Affordability of smartphones and data plans is a key barrier to widespread mobile education access for low-income families. Students from disadvantaged backgrounds will be left behind, without financial extraordinary support and subsidised digital provisions (Wang et al., 2022).

Furthermore, there is a level of cultural reluctance to accept mobiles as educational tools (Zho & Li, 2015). Smartphones and tablets are indeed distractions Real Time Foundation However, some teachers still see smartphones and tablets as an obstacle to learning rather than a powerful learning device, making the integration of these devices possible but more difficult to achieve.

In spite of these difficulties, there are positive developments that demonstrate the promise of m-learning when it is adequately backed up. For example, pilot projects such as the government of Punjab's "e-learn Punjab" initiative demonstrate how school policies and government support can help the successful deployment of mobile learning programmes. The above multi-case scenario reveals that organised efforts and focused interventions could help override barriers and facilitate the advent of digital-based education in Pakistan (Ullah et al., 2024).

Theoretical Frameworks Supporting M-Learning in Language Education

Theories of learning The effectiveness of m-learning for language learning is based on various theories of learning, which stress the potential for increased learner-engagement, context awareness and autonomy.

The Constructivist Learning Theory encourages active learning that is focused on the needs of the student. The second approach is the construction of knowledge via experience and social interaction (Zhang et al., 2025), and M-learning was able to assist the second approach as it allows learners to access multimedia content and collaborate with other learners. This adds dynamism and personalization to language learning.

The Situated Learning Theory and its focus on the significance of real-life situations in learning also supports the potential of m-learning. As for practice in an authentic situation in language learning, language apps recreated the real-life situation for learners' practice, simulating everyday communication of language skills on mobile devices (White, 2019). This contextualisation allows students to make use of the things they learned in everyday contexts, effectively linking theory and practical applications.

Other than that, the Self-Determination Theory has also accounted for how gamified language learning app could enhance motivation by addressing learners' needs for autonomy, competence, and relatedness. M-learning platforms offer opportunities to set personal learning goals, get instant feedback and connect with

other people, which make m-learners feel more responsible and engaged in the learning process (Umugiraneza et al., 2018).

Taken together, these theoretical perspectives indicate that well-designed m-learning interventions have the potential to augment EFL learners' language proficiency by facilitating their active involvement, grounding learning in authentic contexts, and promoting intrinsic motivation.

Empirical Studies on M-Learning for English Language Acquisition

Within the context of language learning, recent studies have shown the advantages and constraints of m-learning.

On the positive side, a study in Pakistan and India demonstrates that mobile apps provide good improvements in the language skills (vocabulary, pronunciation and reading) (Zapata & Bauer 2012). Students who used mobile apps were observed to have improved these skills, which means that m-learning tools are useful for students' development of the language (Ullah et al., 2024).

Hybrid learning approaches also seem to be a model that works well. The combination of m-learning with traditional face-to-face teaching contributes to better learning than only using traditional approaches (Yang and Zhang, 2010). Our hybrid learning model leverages the flexibility and interactivity of mobile technology, while at the same time providing the structure and support students need from their teachers.

Nevertheless, there are still obstacles that prevent m-learning to become more widespread (Winchester, 2018). A blockade is constituted by such barriers as: technological ones (low internet penetration, obsolete equipment), institutional ones and reluctance to change pedagogical methodology (Afshar & Shah, 2025). These are the concerns that need to be answered for successfully incorporation of m-learning into pedagogical systems.

In the end, the results of this study provided relevance between the ongoing issues of m-learning, existing m-learning benefits, particularly in blend traditional learning, and long-term effective use of m- learning given existing infrastructural and pedagogical barriers.

Gaps in Existing Research and Future Directions

However, despite the increased interest in m-learning, a number of research gaps have remained:

- There are few studies on rural education in Pakistan.
- There are limited longitudinal research studies to indicate m-learning long-term effect on English competency.
- There is a demand for contextualised culture-sensitive m-learning materials.
- Further study is necessary with respect to teacher training programmes for m-learning adoption.
- Future research is recommended to investigate scalable m-learning frameworks in the Pakistani socioeconomic and educational scenario.

Conclusion of the Section

The study identifies the powerful impact of mobile learning (m-learning) on English language teaching and learning in Pakistan. M-learning, through use of mobile devices and digital platforms is likely to break existing barriers to education including lack of access to good teachers, outdated textbooks and inconvenience of space and time especially in rural and underserved areas. Research indicates that interactive mobile applications, video lessons, and artificial intelligence language tools can greatly improve students' motivation, vocabulary acquisition, and communicative skills. Yet, the gainful adoption of m-learning is also fraught with severe issues, such as lack of digital infrastructure (inefficient internet and lack of electricity) [3], lack of teacher training on technology-assisted pedagogy, and multiple forms of disparities in the ownership of devices. Furthermore, cultural resistance of digital education and scant localized content in Pakistan's dominant lingual diversity are other barriers that may impede its adoption. To overcome these hindrances, a joint effort is needed: Policy makers should invest in expanding broadband access and subsidized devices, educators need in-service training to use m-learning tools effectively and technology developers should develop affordable, offline- enabled solutions which are integrated with Pakistan's curriculum. M-learning, by promoting the development of such ecosystems, can facilitate the democratization of access to high quality English language education, improve educational equity and prepare learners to participate in global opportunities.

METHODOLOGY

Methodology This was a quantitative research and a structured questionnaire was used to collect data from 380 university students from public and private universities of Pakistan. The main goal was to investigate the role and the perception of mobile learning in English as a Foreign Language (EFL). Demographic data were collected such as gender, age, level of study and type of university and shown using frequencies and percentages for convenience of presentation. The questions on the main part of the survey were drafted through a 5-point Likert scale to capture students' use, perceptions, problems and future perspective on mobile-assisted language learning. The internal consistency of the instrument was examined using Cronbach's Alpha, and it showed high internal consistency in all th four domains and of the overall instrument, with alpha coefficients that ranged from 0.78 to 0.85 for individual parts and 0.88 for the entire instrument. The data were analyzed using the software SPSS version 28, and it was descriptive statistics, reliability analyses, and data visualization including tables and figures which were used to present the findings. The survey was robust and designed to maintain both the validity and the reliability of the work, offering significant transferable findings concerning the implementation of moble learning technologies within the Pakistani Higher Education context.

Reliability Test of the Research Instrument

To assess the reliability of the questionnaire applied in this study, the Cronbach's Alpha value was computed for each section (Butt, 2021). These results indicate the internal consistency of the instrument, that is, that the items within each scale can measure the same variable.

The Mobile Learning Usage & Experience domain, comprising 5 items, demonstrated a high reliability with a Cronbach's Alpha of 0.82. This suggests good internal consistency, thereby providing evidence that the items are able to tap the diverse areas of student participation in mobile learning without duplication.

While for the section of Perceptions of Mobile Learning, containing also 5 items, the reliability was 0.78, which indicated an acceptable reliability. This indicates that the items measuring students' attitude towards mobile learning are reliable and could be slightly improved in terms of logical system.

The Challenges in mLearning sub-scale also had an excellent reliability score of 0.85 with 5 items. These findings support that barriers identified, such as connectivity concerns, cost of data, and difficulties focusing, are being consistently and reliably measured.

Equally, Future of Mobile Learning with 5 items has a Cronbach's Alpha of 0.80 implies high reliability. Here lies the harmonization of students' expectations about AI tools, governmental backing, and institutional embedding.

The overall Cronbach's Alpha for the entire instrument (20 items) was 0.88 indicating excellent reliability (Sadia, 2020). Such a high score confirms the questionnaire as a strong measure for assessing mobile learning in English language education system of Pakistan.

In summary, from the reliability analysis, it can be concluded that the instrument is consistent to measure adoption, perceptions, challenges and future prospects of mobile learning. These findings support its application in similar research and ensure the reliability of findings. Future qualitative follow-ups could result in further refinement of specific items and larger samples would also enhance reliability validation.

Table No. 1 Reliability Test of the Research Instrument

Section	**Number of Items**	**Cronbach's Alpha (α)**
Mobile Learning Usage & Experience	5	0.82
Perceptions of Mobile Learning	5	0.78
Challenges in Mobile Learning	5	0.85
Future of Mobile Learning	5	0.80
Overall Reliability	20	0.88

Data Analysis

The data analysis process starts by cleaning and formatting the raw survey data including dealing with missing values as well as the normalization of data. Descriptive statistics (mean and percentage) and inferential procedures (Cronbach's Alpha, correlation) are then used to analyze the patterns and test reliability. Lastly, interpretations are made to deduce and discuss results, to compare with published data and to summarize through visual and graphical illustrations, such as tables.

Section 1: Demographic Information

Gender

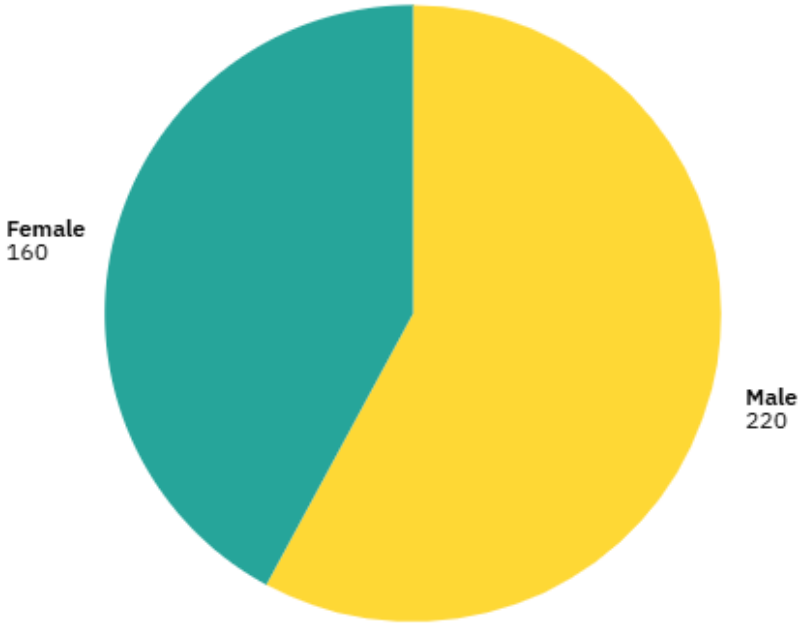

Figure No.1 Gender of the respondents

Demographic data showed that of 380 respondents participated in the research study titled: Mobile Learning in English Language Education in Pakistan, 57.9% (n=220) were male and 42.1% (n=160) were female. This suggests a slight gender imbalance, with men respondents being more than women by around 15.8 percentage points.

Age

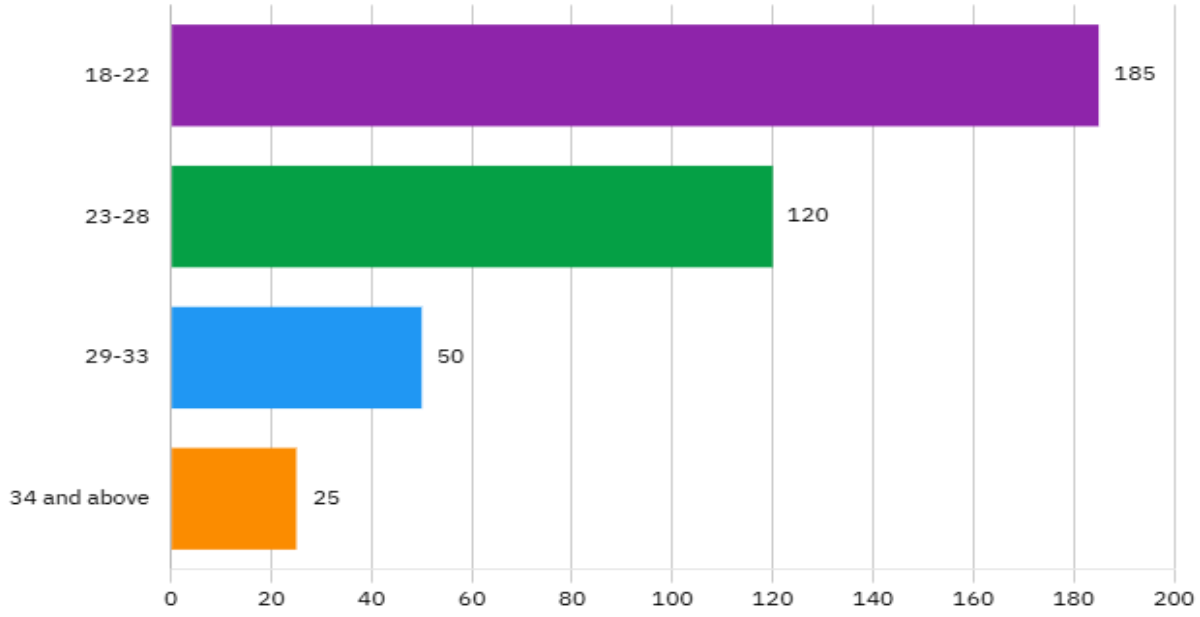

Figure No. 2 Age of the respondents

The age demography of the participants in this study on Mobile Learning in English language Education in Pakistan reflects certain trends which could potentially affect the results, implications and generalizability of the study. Most respondents are aged 18–22 (48.7% or n=185) and 23–28 (31.6% or n=120), with smaller percentages in 29–33 (13.2%) and 34+ (6.6%).

Level of Study

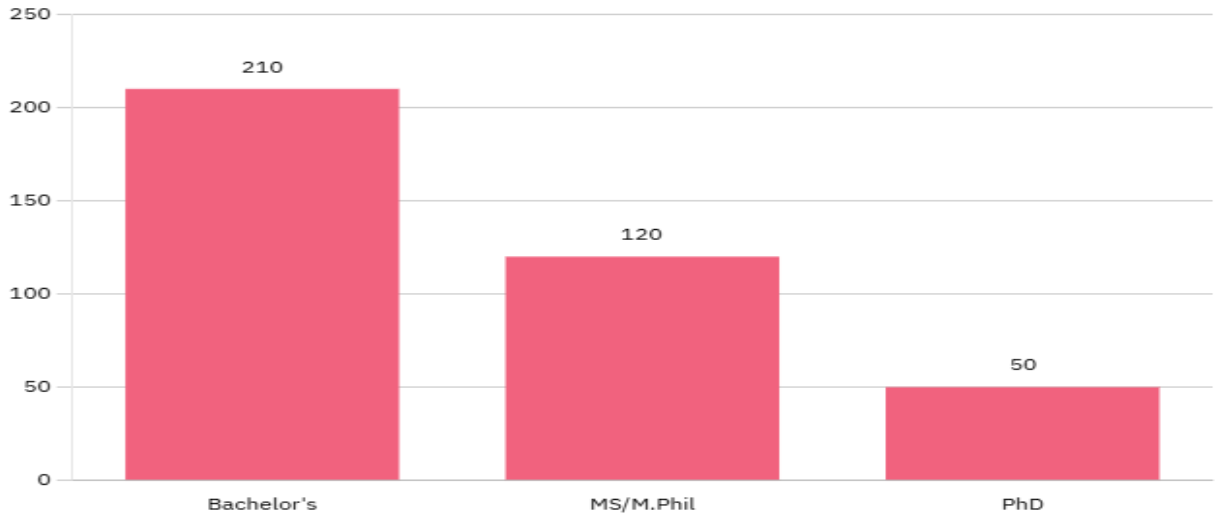

Figure No. 3 Respondent's study of the level

The sociodemographic characteristics of the study participants highlights significant patterns in the acceptance of mobile learning across various academic levels in Pakistan. Bachelor level respondents are on the top with 55.5 percent followed by MS/M.Phil with 31.6 and PhD scholars are 13.2 percent. This pattern indicates that mobile learning is more preferred in the undergraduate level, possibly because universities are including digital tools in basic English courses, and younger students are more accustomed to technology-mediated learning.

University Sector

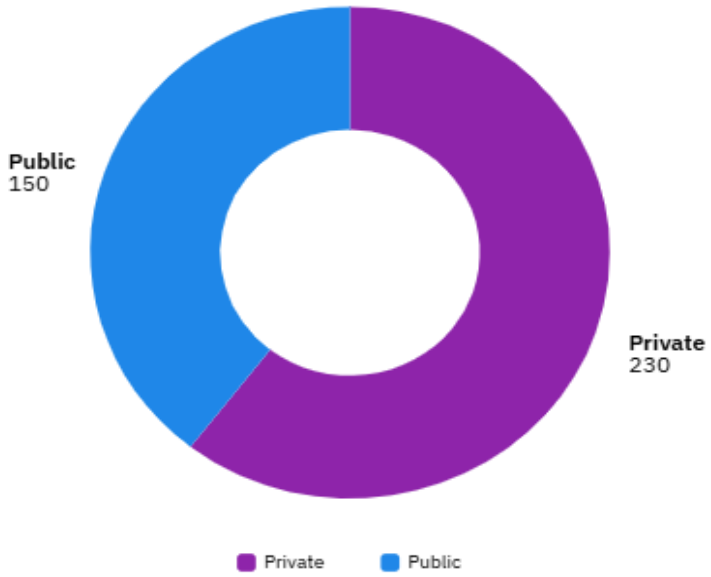

Figure No. 4 University sector of the respondents

Participants' ratio in private and public university sectors provides interesting clues towards understanding the adoption of m-learning across the higher education scenario in Pakistan. Students from private universities made up the majority (60.5%; n=230) and from public universities (39.5%; n=150) comprise the sample. This 3:2 ratio hints to several interesting developments I would like to discuss.

Section 2: Mobile Learning Usage & Experience

These trends among Pakistani university students are identified by considering the data on mobile learning experience and usage. Over two thirds (65%) of students use mobile devices frequently for English

language practise, 40% agree and 25% strongly agree. This penetration indicates that mobile technology is now a standard tool for the workplace of language learning within HEIs. The report suggests that students are becoming more comfortable using smartphones and tablets as part of their learning, bypassing traditional classroom techniques.

When looking at views of efficacy, 65% of people believe language-learning apps make them better at speaking English. Yet the ratio between agree (45%) and strongly agree (20%) responses indicates that most of the students find the tools useful, and not many think so utterly convinced about their value. This subtle view in the app design and realization indicates for further adjustments and improvements. One third of the students are neutral or opposed to the effectiveness of the apps, which suggests that both developers and educators should provide better designed resources, as well as proper guidance on use.

Frequency of use appears to follow an interesting pattern: 52% of the students used mobile learning resources three times or more a week. This moderate but steady usage frequency indicates that mobile learning is used as a complementary, rather than major, learning tool by most students. There are 25 percent who claim to use the resources less often; 23 percent are categorized as neutral, and may suggest usage is sporadic or situational, which is subject to workload or taste.

According to comparative viewpoints, 50% of students feel that mobile learning enables them to practise their English more than traditional means of learning English, and another 30% are neutral regarding this comparison. This indicates a trend where mobile learning is proving itself to be an effective method, however the students do still show value in both traditional and technology based learning. The neutral responses might mean students have mixed feelings since some special apps may help them, and other aspects may be different, e.g., the practices of learning language or the quality of the traditional learning patterns and mobile resources.

One remarkable finding is the variety of mobile resources that are being used for learning English; 60 per cent of the students mention that they use different kinds of mobile resources. And that means learners are getting more savvy about constructing their own personal toolkits — that could be language apps, online dictionaries, video platforms, social learning tools. Such diverse use patterns indicate that students are actively looking for alternative methods to work on their various language skills—from building vocabulary to practice listening—using various digital tools.

There are important implications of the findings for different audiences in Pakistani higher education. For university administrators, and faculty who administer such programs, the data is used to make a case for the formal incorporation of mobile learning into language curricula, as well as to make recommendations ofprudent use ofthis technology. App developers need to be mindful of the large proportion of students who are not convinced of efficacy, indicating opportunities to better align with content and pedagogy. Policy makers might also need to ensure that infrastructure and access challenges are dealt with fairly across diverse student populations.

Several caveats must, however, be taken into account in interpreting these findings. The data does not specify which apps or other resources are most effective for students, and it also lacks information on how usage patterns might differ among types of academic disciplines. The instrument assesses frequency but not length of use sessions, and it fails to demonstrate a direct relationship between the intensity of use of mobile learning and actual gains in language proficiency. Such dimensions warrant additional attention via focused research methods.

Future research should be conducted in the form of qualitative studies, to find out what app functionalities are of practical use to the students, and what exactly hampers them in using (or using more, or using better) the apps. Longitudinal observational studies investigating the association between m-learning engagement and language proficiency outcomes would further clarify the evidence of impact. Comparative studies that explore these gaps between student subpopulations, for instance students in private versus public institutions, or urban versus rural settings will be highly informative as efforts are made to implement more equitable mobile learning solutions.

The general impression conveyed is one of increasing yet cautious interest in mobile English language learning in Pakistani universities. Although uptake is high and often favorable, the results indicate available opportunities to improve tools, deepen engagement, and better address the learning needs of a diverse population of students. With the normalization and cumulation of mobile learning in higher education, the findings can inform more effective and strategic planning and implementation in the future. The findings emphasize the need to understand mobile learning not as an independent solution, but as being part of a wider ecology of language education which capitalizes on the procldities of digital and traditional expertise.

Table No. 2 Mobile Learning Usage & Experience

Statement	**Strongly Disagree (1)**	**Disagree (2)**	**Neutral (3)**	**Agree (4)**	**Strongly Agree (5)**
I regularly use mobile devices for English language learning	5% (19)	12% (46)	18% (68)	40% (152)	25% (95)
I find language-learning apps effective for improving my English	3% (11)	10% (38)	22% (84)	45% (171)	20% (76)
I use mobile learning resources at least 3 times per week	8% (30)	15% (57)	25% (95)	35% (133)	17% (65)
Mobile learning helps me practice English more than traditional methods	7% (27)	13% (49)	30% (114)	35% (133)	15% (57)
I use multiple types of mobile resources for English learning	4% (15)	11% (42)	25% (95)	40% (152)	20% (76)

Section 3: Perceptions of Mobile Learning

The findings provide valuable information on Pakistani university students' perceptions of mobile learning for EFL learning. As for how well it compares to in-class learning, people are divided. 40% believe mobile learning is as effective (25% agree, 15% strongly agree) 30% are neutral 30% disagree (10% strongly disagree, 20% disagree) That says to me that many students perceive mobile learning to be complementary, not better than, pre-existing practices.

Feeling more motivated is once again slightly ahead in positive direction, (agree 40% + strongly agree 15% = 55%) of the magnets to learn English with a mobile app rather than a textbook. The 25% of students who neither agree nor disagree potentially seems like a substantive portion of students who may shift between learning materials as necessitated by context or preference. A mere 20% actually prefer traditional textbooks.

Especially notable is the strong support for using mobile learning in formal education. A full 75% support this idea (45% agree, 30% strongly agree), compared to just 10% who do not. This lopsided percentage thinking indicates that students see the significance of integrating mobile devices with traditional English teaching.

Quality perceptions are overall strong, with 65% believing in the accuracy of mobile app content (45% somewhat agree, 20% strongly agree). Yet 20% neutral and 15% negative responses suggest concerns with content validity that need to be problematised by developers and educators.

Recommendation ratings are high, 75% would recommend mobile learning (50% agree, 25% strongly agree.) This strong support, and low 7% dissent, shows mobile learning has become a very well respected English language learning approach among Pakistani university students.

Taken together, these results are consistent with a picture of cautious optimism. Although students are evidently appreciative and users of mobile learning, they seem to consider it as most effective when complementing, rather than replacing, traditional means. Strong endorsement for formal integration Indication of demand for more institutionalised mobile learning projects within the Pakistani higher education context.

Table No. 3 Perceptions of Mobile Learning

Statement	**Strongly Disagree (1)**	**Disagree (2)**	**Neutral (3)**	**Agree (4)**	**Strongly Agree (5)**
Mobile learning is as effective as classroom learning for English education	10% (38)	20% (76)	30% (114)	25% (95)	15% (57)
I feel more motivated to learn English through mobile apps than textbooks	5% (19)	15% (57)	25% (95)	40% (152)	15% (57)
Mobile learning should be part of formal English education in Pakistan	3% (11)	7% (27)	15% (57)	45% (171)	30% (114)
Mobile apps provide accurate English language content	5% (19)	10% (38)	20% (76)	45% (171)	20% (76)

I would recommend mobile learning to other English learners	2% (8)	5% (19)	18% (68)	50% (190)	25% (95)

Section 4: Challenges in Mobile Learning

Several key impediments to m-learning in English were identified in Pakistan's higher education environment, as evidenced by the data. Top answer regarding current challenges include infrastructure and cost concerns with nearly 70% (45%agree; 25% strongly agree) reporting they have frequent issues of internet connectivity that interrupt their learning. This technical skill deficit is underpinned by financial limitations, with 77% stating that the cost of mobile data inhibits their English learning activities (50% agree, 27% strongly agree). These results demonstrate the critical importance of socioeconomic indicators and quality of digital infrastructure in determining the success of m-learning programmes.

Attention and concentration was the next biggest annoyer, with 45% of students finding it hard to concentrate on their phones (30% agree, 15% strongly agree). This would seem to indicate that, at least to some extent, while mobile devices offer convenience, they also offer (in the form of interruptions) potential distractions that could be detrimental to learning quality. The 25% neutral respondents may be students who go through periods of struggling with the problem depending on the environment or the particular educational task.

In terms of appropriateness of the content, the opinions appear to be quite mixed. Although 30% of the participants think that most English learning apps are not adapted for Pakistani learners (20% agree, 10% strongly agree), the majority (40%) disagree (25% disagree, 15% strongly disagree). This suggests that, although existing apps do not meet the needs of certain students, others are satisfied with those currently on the market. The 30 percent of neutrals seems to indicate that many students might not yet have the exposure to a wide variety of apps to have even formed strong preferences.

The importance of guidance in the search for resources is, therefore, quite evident with 55% (40% agree, 15% strongly agree) of respondents feeling the need for it. This hefty majority suggests the students feel overwhelmed with the options at hand and would appreciate institutional help finding tools that best match what they are trying to do. Just 20% are very comfortable making those decisions on their own.

This combination of challenges, these authors argue, clearly illustrate that while Pakistani students are willing to adopt mobile learning, several systemic, technical and content barriers are restricting its potential. The wide spread of connectivity and cost issues suggests systemic infrastructure and affordability gaps that require attention at policy and institutional levels. The attention problems and the need of guidance reflect some pedagogical concerns that should be taken into account when introducing mobile learning in English teaching.

Implications The results have several implications. Universities might also have to invest in campus WiFi infrastructure and offer data subsidies to students. App developers might consider offering more localized content, and features that reduce distractions. Teachers should play a leading role in training pupils in effective m-learning strategies and in choosing resources. Policymakers could negotiate with telecom companies to provide affordable education data packages.

Table No. 4 Challenges in Mobile Learning

Statement	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
Internet connectivity problems frequently interrupt my mobile learning	5% (19)	10% (38)	15% (57)	45% (171)	25% (95)
The cost of mobile data limits my English learning activities	3% (11)	8% (30)	12% (46)	50% (190)	27% (103)
I find it difficult to stay focused when learning English on my phone	10% (38)	20% (76)	25% (95)	30% (114)	15% (57)
Most English learning apps aren't designed for Pakistani learners	15% (57)	25% (95)	30% (114)	20% (76)	10% (38)
I need guidance to select the best mobile learning resources	5% (19)	15% (57)	25% (95)	40% (152)	15% (57)

Section 5: Future of Mobile Learning

Findings showed high expectation with marked trend towards optimism concerning potentials of mobile learning in the context of English education in Pakistan but this optimism was balanced with realistic expectations about what it can and cannot do. More than half of students (57%) don‟t believe mobile learning will be the dominant way English is learned (35% disagree, 22% strongly disagree), and for many mobile might be part of a mixed learning environment in future, rather than a replacement to traditional ways of learning (30% neither agree nor disagree).

An incredible 83% support government investment in mobile learning projects (50% do so and 33% do so strongly), while only 7% express a negative view towards such support. This consensus is probably due to students' belief in the transformative capabilities of Touch Phone- based learning productions, when appropriate infrastructure and interventions are in place. Likewise, 83% think schools should allow mobile learning as a part of their curriculum (50% agree, 33% strongly agree), which would seem to be clear support for their formal recognition and incorporation into more traditional educational frameworks.

Students are particularly excited about AI-driven tools: 75% believe that they will “greatly improve” mobile English learning (45% agree, 30% strongly agree). With such a high level of confidence in these new tools, Pakistani learners appear to be ready for innovative ideas which promise to enhance their language learning processes.

At a personal level, three-quarters of students say that they intend to use mobile learning more (50% agree/ 25% strongly agree) reflecting deep personal commitment to this form of learning. This is consistent with the relative complement of the positive experiences and perceptions that were unveiled in the above sections, although it is also regarding the fact that 15% are indifferent and 10% nothing to increase the use.

Table No. 5 Future of Mobile Learning

Statement	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
Mobile learning will become the primary way to learn English in Pakistan	10% (38)	20% (76)	30% (114)	25% (95)	15% (57)
The government should support mobile learning initiatives	2% (8)	5% (19)	10% (38)	50% (190)	33% (125)
AI-powered tools will significantly improve mobile English learning	3% (11)	7% (27)	15% (57)	45% (171)	30% (114)
Educational institutions should integrate mobile learning into their programs	2% (8)	5% (19)	10% (38)	50% (190)	33% (125)
I plan to increase my use of mobile learning for English	3% (11)	7% (27)	15% (57)	50% (190)	25% (95)

DISCUSSION

The implications of this study shed light on what mobile learning means in the wider context of English language education in the higher education sector in Pakistan. The findings uncover a complex terrain in which a strong predilection for mobile learning is tempered by pragmatic concerns and nuanced attitudes among the students.

The fact that mobile learning has become prevalent and 65% of students frequently use mobile devices for learning English indicates its increasing role in educational settings. This is congruent with a worldwide trend of greater incorporation of technology in education (Samala et al., 2024). Nonetheless, the modest intensity of use (at least three times weekly 52%) indicates mobile learning is currently supplementing rather than replacing the use of formal learning. This discovery echoes with the hybrid learning model suggested by (Ibrahim et al., 2023) in favour of blending digital and analogue methods to maximise learning potential.

There is an interesting paradox in how m-learning effectiveness is perceived by students. Sixty-five per cent believe language apps are effective, but only 20 per cent strongly agree with this sentiment suggesting app design and delivery could be refined. A split difference of opinion regarding the equivalence between achieving learning in mobile facilities compared to classroom atmosphere (40% agree to 30% disagree) appears to indicate that the learners see the methods as complementary rather than substitutive. This is in line with the results of (Greenhow et al., 2022) in analogous educational developing contexts that technology is best, not replacing, existing pedagogies.

The paper highlights the major constraints to the effective implementation and use of mobile learning, in particular those related to infrastructure. 70% and 77% of them reported that they were facing connectivity issues and limited data cost, respectively, signifying serious socioeconomic and technological constraints in Pakistan's educational sector. Such results also confirm what (Stojan et al., 2022) reported on digital divide in developing countries with affordability and accessibility being two biggest challenges for the adoption of educational technology.

Pedagogical challenges such as being unable to focus (45% agreement) and needing help choosing what to learn (55% agreement) indicate that simply having access to technology is not enough. These findings reinforce the model by (Bond et al., 2020) that highlights the role of digital literacy and institutional support for successful technology-enhanced learning.

The high level optimism shown toward the future of the mobile delivery of education – especially among the 83% that believe the government should support it and integrate it into schools – is a strong signal to policymakers. There is appetite for tech-based learning with three-quarters of students being excited by learning via AI-based tools, which bodes well for future explorations, but a caveat to any expansion in this area is 30% believe current apps are not tailored to them and what is right on a global landscape won't necessarily be right in the local market.

Demographic differences, such as the over-representation of private university (60.5%) and undergraduate (55.3%) participants suggest the potential for disparities in access and use of mobile learning. This is congruent with (Ullah et al., 2024) critique of educational technology being biased towards greater inequality unless purpose-built for inclusivity.

For educators, the results emphasize the importance of well-designed and systematic integration of mobile learning in the curriculum including guidance and support mechanisms. For app developers, the key is localization and pedagogical quality, and for policymakers, it is about addressing infrastructure and affordability gaps. Institutions could also create mobile learning centers to offer technical and pedagogical assistance.

Although the present study had some strengths, there were several limitations to this study. The sample is skewed toward students who are younger and who attend private universities, which may affect the generalizability of the findings. Longitudinal study designs should inform future research into learning outcomes and contextual variability across academic disciplines. Qualitative research might be useful to make better understand of usage habits and obstacles.

This research adds to a wide ranging literature on mobile learning and contributing to a growing literature within developing educational contexts. The results indicate that despite students' acceptance of mobile tarnish for English learning, there exist some obstacles that impede its full potential. There is a need for a convergence of the efforts of educators, developers and policy makers to develop an ecosystem in which mobile learning would be an effective supplement to conventional modes of learning and a catalyst for quality education for all.

Future research could aim to investigate the alignment of ML and cultural comprises along with pedagogy, and organisational policies in order to propose more nuanced pragmatic implementation strategies for the Pakistani and similar educational landscapes across the globe.

CONCLUSION & RECOMMENDATIONS

The results of this study underscore the importance of mobile learning (m-learning) in promoting English language teaching in Pakistan at university level. Vast majority of students actively use mobile devices to learn languages, suggesting increasing reliance on digital resources to complement face-to-face learning. The findings indicate that mobile learning is not only a convenient choice, but also an impressive supplement, since it can motivate, involve, and mobilize learners and expose them to authentic English usage.

However, the study also found some obstacles against popularization of m-learning. Some of the main issues are about the difficulty of getting online, expensive mobile data, and lack of relevant localized content. Students also noted energy to be a barrier and assistance required to choose useful resources. This and other challenges reveal systemic and pedagogical voids that should be filled to maximize the advantages of m-learning.

The strong internal consistency and the highly coherent student responses in this study affirm the role of rigorous mobile learning interventions. Students demonstrate strong aspirations to have mobile learning incorporated as a formal part of the institution's pedagogy and anticipate that AI tools will play a role in improving their learning experiences in the future. Yet, students are also practical and others are noting that mobile learning works best when combined with traditional teaching.

In order to enhance the programme delivery of m-learning, educational institutions should invest in digital infrastructural facilities such as high speed wi-fi, subsidized data packages should be given to students. Application developers should develop pedagogically and culturally relevant and easy-to-use applications that are in accordance with the requirement of Pakistani learners. There is a need for teachers to be trained in how to integrate, and use mobile technology in their teaching and be able to help students to select the best educational resources.

Policy makers are invited to plan inclusive technology-enhanced educational reforms strengthening public financial support for mobile learning initiatives in collaboration with the telecom and national curriculum development companies. Ultimately, it will take the combined efforts of educators, developers, administrators, and policy makers to ensure long-term success. Longitudinal studies on learning outcomes over a period of time and the possibility to address issues on how to make m-learning more equitable among different types of students in Pakistan should be pursued in future research.

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